



California Office

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March 24th, 2008

California Energy Commission
c/o RETI Environmental Stakeholder Representatives
Media and Public Communications Office
1516 Ninth Street, MS-29
Sacramento, CA 95814-5512

**Re: Comment on the Black and Veatch Renewable Energy Transmission Initiative
Phase 1A Draft Report**

Dear Renewable Energy Transmission Initiative Stakeholders Steering Committee Members:

On behalf of Defenders of Wildlife (“Defenders”) and our more than half a million members and supporters in the U.S., 100,000 of which are in California, I am writing to provide comments on Black and Veatch’s Renewable Energy Transmission Initiative Phase 1A Draft Report. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, Defenders employs science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

Defenders strongly supports the emission reduction goals found in AB 32, including the development of renewable energy in California. However, we urge that in the quest for renewable power that project proponents design their projects in the most sustainable manner possible. This is essential to ensure that project approval moves forward expeditiously and in a manner that does not sacrifice our fragile desert landscape and wildlife in the rush to meet our renewable energy goals.

Before we get into specific concerns with the Draft Report, we would like to raise the concern that we believe this process is moving at a pace that does not provide adequate review time and meaningful opportunity for full and useful comments. We do not believe that one week is sufficient time for the stakeholders to provide meaningful comments to the environmental stakeholder representatives, particularly since the draft report is 255 pages long. Moreover, we are concerned that one week is not sufficient time for Black and Veatch to fully consider and incorporate our comments. We hope the related revision rounds in the coming month will provide sufficient time for review, discussion and comments.

Turning to the Draft Report, our comments are divided up into four sections:

1. The environmental criteria taken into account by the RETI process and its implications for ranking of ‘competitive renewable energy zones’ (CREZ);
2. Solar energy with some examples of projects we are already analyzing in the desert to offer as ‘lessons learned’ to RETI;
3. Connectivity and landscape-level considerations; and

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4. Wind energy considerations.

Defenders of Wildlife would like to stress that we are very disappointed at the treatment of environmental concerns in the draft Black and Veatch work plan. Throughout the work of RETI, environmental issues must be given equal consideration alongside economic issues if the collaborative goals of this effort are to be achieved. Thus, the environment cannot be seen as an ‘add on’ to what some may argue are more important economic concerns. Environmental considerations must be fully integrated into the decision-making process *from the onset* by attaching more stringent screening criteria. This will determine what are truly available lands for renewable energy transmission lines, as well as appropriate sites for power generation. The development and use of these screens must precede valuation of the renewable resources. Otherwise you have a ‘favorable’ situation for a renewable energy site that does not reflect the true situation. We have heard that Black and Veatch intend to include more environmental factors in their analyses of renewable energy zones. We are pleased at this development and look forward to a second draft that gives a much more thorough treatment of environmental concerns with a more robust definition of natural resource areas of concern to the RETI process.

1. Environmental criteria taken into account by the RETI process

As part of the effort to focus more thoroughly on environmental factors, we strongly urge that the RETI process utilize more stringent screening criteria to determine available renewable resources as well as appropriate sites for generation and transmission. These criteria are part of a thorough treatment of any environmental analyses. The problem with the National Renewable Energy Lab (NREL) filter utilized by Black and Veatch is that it looks to avoid only: (a) National Parks and (b) Wilderness Areas. This is woefully inadequate. In addition to these two course filters, it is critical to include:

- a. Wilderness Study Areas
- b. National Historic Sites, National Historic Parks, National Preserves (data available from NPS)
- c. National Wildlife Refuges (data available from USFWS)
- d. National Monuments (data available from NPS, BLM, USFS)
- e. National Conservation Areas (data available from BLM)
- f. National Historic and National Scenic trails (data available from BLM, USFS, NPS)
- g. National Wild, Scenic, and Recreational Rivers (data available from BLM, USFS, NPS)
- h. Areas of Critical Environmental Concern (ACEC's available from BLM)
- i. Forest Service Roadless Areas (data available from USFS)
- j. Threatened, endangered, and sensitive species habitat (data available from USFWS, CDFG, and Nature Serve)
- k. Critical core linkages for wildlife habitat: this includes State Comprehensive Wildlife Conservation Strategies required by Congress through State Wildlife Grants Program (data available from USFWS and CDFG)
- l. Desert Wildlife Management Areas (available from BLM, www.deserttortoise.gov)

We realize the incorporation of the data takes time, but it is freely available. Moreover, the Center for Biological Diversity (CBD) has already begun compiling this data in GIS layers, which it has agreed to make available for prioritization exercises to the RETI process. We appreciate CBD's investment in this collaborative process through their efforts to prepare this information. Defenders has agreed to work with CBD and others in RETI to identify not just ‘no go’ zones, but also to decide which areas would be most beneficial for transmission lines and facilities. This ensures that we all move ahead in a

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collaborative spirit originally envisaged with the composition of the RETI stakeholder committee. Indeed, we look forward to seeing the utility of CBD's mapping data, and believe it will help other stakeholders visualize environmental concerns better.

2. Solar energy considerations and examples

Defenders of Wildlife is currently analyzing two proposed projects in the desert that offer lessons learned for the RETI process: (1) the Ivanpah Solar Electric Generating System ("Ivanpah SEGS") and (2) the Victorville 2 Hybrid Power Project. It is important to note that when one considers 'solar' facilities that this is not a blanket term, and there are significant differences in environmental impacts from solar technology. For instance, 'dish-engine' technology, while still in the development stages, uses virtually no water and less land. Though up-scaling this technology requires much more refinement, this is a major consideration for solar technology projects that are being planned in a water-stressed environment such as the desert.

While a thorough discussion of the pros and cons of different solar technologies is beyond the scope of these comments, Defenders of Wildlife would like to mention that the short and long-term environmental costs to these technologies must be taken into account when ranking sites. For example, photovoltaic cells are made primarily of silicon and the extraction of silicon requires the use of fossil fuels. Photovoltaic cells must be replaced every 30-40 years and the production of these cells is very energy intensive. Our point is not that solar is undesirable; rather, that we view the environmental and fossil fuel costs from beginning to end in any project evaluation.

Moreover, we are paying close attention to the 'green-washing' of such terms as "Solar Projects," given that the Victorville 2 Hybrid Solar Power Project is roughly 85% natural gas. On a similar note, the Ivanpah SEGS is a massive project with a 3,400-acre footprint that includes three solar concentrating thermal power plants, associated buildings, roads, a gas and water pipeline, new groundwater pumping, and a reconducted transmission line.

A. Examples Desert Tortoise Impacts from Solar Projects.

Other indirect and related solar construction impacts to desert tortoises must be fully analyzed and mitigated, such as new water sources from solar that attract predators (ravens), impacts to water sources for desert tortoises from proposed groundwater pumping, impacts from roads, and impacts from vegetation management. We have identified these issues as concerns with the proposed Ivanpah Solar facility. For example, if additional water sources will be placed on site, they could increase raven populations within the surrounding area. A raven monitoring plan would need to be included, as ravens can have a very detrimental impact on tortoises. These related wildlife concerns are easily overlooked.

Roads lead to direct and indirect impacts on desert tortoise including road kill mortality, destruction of burrows, dispersion of invasive plants, predators, development, recreation, and possibly disease (Boarman 2002). Roads and highways tend to fragment wildlife habitat and reduce the movement of animals through the landscape (Tsunokawa and Hoban 1997, Evink 2002). Road kill is the greatest human-caused source of direct mortality to vertebrate wildlife in the United States with an estimated one million vertebrates killed per day on roads in America (Forman and Alexander 1998, Kline and Swan 1998). The cumulative impact of habitat fragmentation on desert tortoise is exacerbated by roads and

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the amount of habitat that they degrade (Boarman 2002). This is of critical concern for any solar construction activity.

3. Connectivity and landscape-level considerations

Defenders of Wildlife advocates for a ‘landscape’ or ‘ecosystem’ based approach to wildlife protection because we feel a focused analysis of the development impacts over large geographic areas is crucial to the long term viability of our species of concern, such as the Mohave Ground Squirrel and Desert Tortoise. While we appreciate the fact that the proposed energy corridors avoid the first ‘broadstroke’ of wildlife concerns such as National Parks (Joshua Tree National Park), transmission corridors have the potential to cut dangerously close to protected area borders and threaten the overall migratory ability of wildlife endemic to the region. These are important elements of a biodiversity conservation program because they often contain important habitat, provide buffers and links to conservation areas, and are part of the general landscape that affects aspects of ecosystem health, such as water quality and properly functioning ecological processes

Protecting biodiversity in and around developed areas where the energy corridors are proposed in the desert is a difficult task. Disturbed and fragmented habitat blocks remain; there may be less viable natural communities of plants and animals and non-native species may have replaced native species, and populations of animals may be unnaturally low in good habitat due to factors such as disease, as is the case in area just north of Ivanpah. Larger, intact habitats that are connected to one another and to their associated ecological processes are therefore very important to biodiversity. Defenders of Wildlife thus evaluates proposed intrusions into habitat along these lines.

Planning for such protection requires a landscape-scale perspective, and this perspective merits an analysis beyond simple protected area avoidance, identifying additional unique habitats within developed areas to conserve, even if they are small, as this contributes to the preservation of whole communities of wildlife and properly functioning ecological processes. They may also serve as refugia during climate change as wildlife are forced to adapt to new conditions. If developed and implemented properly, this landscape level analysis can prevent species from becoming endangered or threatened, thus avoiding costly recovery efforts. For example, it remains to be seen how the Ivanpah Solar Project will affect bighorn sheep connectivity. Defenders is urging that the EIS/FSA for the Ivanpah project assess the impacts to bighorn sheep connectivity, given that the Society for Bighorn Sheep have information that shows that the Ivanpah project area is a wildlife corridor for bighorn sheep. This is bound to be an issue for other wildlife species throughout the desert, and a thorough analysis of connectivity constraints posed by the project, as well as a study of the current status of any affected wildlife populations and movement patterns should be instituted on all solar projects.

A. Defining ‘Cumulative’ Impacts

NEPA requires analysis of significant cumulative impacts for a proposed project combined with other past, present and reasonably foreseeable future projects. CEQ Regulations for NEPA (Section 1508.27) require that the significance of actions be analyzed in several contexts such as society as a whole, the affected region, the affected interest, and the locality. This section also requires that the severity of impact be considered and evaluated in determining “significantly” using 10 stated criteria (43 FR 56003, Nov. 29, 1978; 44 FR 874, Jan. 3, 1979). The seventh criterion addresses “[w]hether the action is related

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to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.” Therefore, any EIS/FSA for a renewable facility must analyze the other proposed renewable energy projects in this region, any foreseeable growth in this area, the foreseeable impacts of climate change, and any other reasonably foreseeable future projects. The impacts should include a discussion of the growth due to the workers associated with this project. Moving beyond simple site evaluations links in with our previous point on landscape-level considerations.

4. Wind Energy considerations

Defenders of Wildlife supports development of wind power as a source of clean, renewable energy. Expansion of renewable energy generation will help reduce emission of greenhouse gases, which contribute to global climate change. Generating power using wind will reduce the need for coal-fired and nuclear power plants, which will improve air quality and reduce the dangers associated with nuclear power and radioactive waste. However, impacts to birds, bats and other wildlife are well documented and could be severe if wind power development proceeds in the absence of careful planning to minimize collision impacts and habitat disturbance. Habitat impacts have received less publicity than collision impacts, although they could be as or more significant, particularly for imperiled species whose habitat lie in prime wind energy production areas. Wind power facilities can directly impact habitats, via the footprint of turbines, roads, transmission infrastructure, and other support facilities

Defenders specifically request that the RETI analysis and recommendation of wind energy concerns address the following:

- Minimize the projects’ ecological footprints
- Avoid steep slopes in order to reduce erosion impacts
- Avoid sensitive and rare natural communities
- Analyze, avoid, minimize, and otherwise fully mitigate impacts to wide-ranging species
- Require structures that discourage perching by raptors
- Avoid identified wildlife corridors
- Avoid fly-ways, especially for raptors
- Avoid development of priority areas as established in state comprehensive wildlife plans, regional conservation plans, and recovery plan for threatened and endangered species
- Avoid development that severs habitat corridors set out in any state Connectivity Plans (Defenders is currently working with UC Davis Center for Road Ecology, U.S. Forest Service and other partners to create a California Connectivity Plan)
- Avoid impacts to species of plants and animals listed under the state and federal Endangered Species Acts
- Avoid overlap with designated critical habitat for federally listed species
- Be consistent with state and federal recovery plans for listed species
- Avoid local, state, or federally protected lands
- Be consistent with regional conservation plans (both current and draft)
- Minimize growth-inducing impacts
- Be consistent with the conservation priorities of existing land management plans

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- Minimize impacts due to on-going maintenance of the pipelines, transmission lines, or distribution facilities
- Minimize cumulative impacts due to existing and planned development in the region
- Actively restore native vegetation to the project footprints after the infrastructure has been constructed

We hope RETI will take the lead in providing clearer guidance on the areas and habitats where wind energy development will not be compatible with wildlife habitat and other values. To reiterate, Defenders of Wildlife strongly discourages the development of wind power facilities, or associated infrastructure, roads or transmission lines, in areas that will destroy, degrade or fragment important wildlife habitats. Roads and other linear disturbances present a particular challenge to wildlife in the form of habitat fragmentation. Continued habitat fragmentation forces wildlife to live on ever-shrinking islands of habitat, where it is more difficult for them to find food, water, shelter, mates, and protection from predators. Genetic problems such as inbreeding appear, and populations become more susceptible to catastrophic events such as wildfire. The resulting fragmented habitat inevitably leads to smaller populations of wildlife, and extinction of populations or species becomes more likely.

5. Wildlife Project Surveys:

Responsibility for conducting preliminary site screenings for wildlife and wildlife habitats call for pre-construction wildlife surveys and for integrating this information into a design, construction and operation plan that minimizes harm to birds, bats and other wildlife and habitat to the maximum extent possible. Site-specific environmental analyses of wildlife, fish and rare plant considerations must give detail as to the timing of project initiation, duration and completion. Robust site assessments and pre-construction surveys are critical to addressing the considerations outlined in section. Referencing a detailed protocol will present applicants with the questions that need to be addressed and the tools to begin doing so early in the application process, prior to investing large amounts of time, effort and money. Sites must ensure that post-construction monitoring take place according to published and accepted protocols at all facilities. Monitoring results must inform ongoing operational decisions such as lighting, land management, invasive species control, etc., in order to minimize adverse impacts to wildlife on an ongoing basis. We wish to point RETI to the following resources:

California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (September 2007). www.energy.ca.gov/2007publications/CEC-700-2007-008/CEC-700-2007-008-CTF.PDF

Kunz, T.H., E. B. Arnett, B. M. Cooper, W. P. Erickson, R. M. Larkin, T. Mabee. M.L. Morrison, M.D. Strickland and J. M. Szewczak. 2007. Assessing the Impacts of Wind Energy Development on Nocturnally Active Birds and Bats: A Guidance Document. *Journal of Wildlife Management* 71(8):2449-2486.

Anderson, R., M. Morrison. K. Sinclair and D. Strickland. *Studying Wind Energy/ Bird Interactions: A Guidance Document*. National Wind Coordinating Committee, 1999 (to be revised in 2008).

U.S. Fish and Wildlife Service. Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines. 2003

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National Academy of Sciences. Environmental Impacts of Wind Energy Projects. Appendix C: Methods and Metrics for Wildlife Studies. <http://www.nap.edu/catalog.11935.html>

Defenders is pleased to be able to submit these comments as part of the RETI process. We look forward to continuing to participate in this process and hope for a solid product supported by a wide range of interests. We hope that the RETI participants received our comments as constructive. We do not want to delay the RETI process; we are only working to ensure that the process deliver a solid, scientifically based product. We look forward to seeing our comments and concerns addressed fully in the subsequent drafts from Black and Veatch. If you have any questions, please feel free to contact Mike Skuja at (916) 313-5800 ex. 110.

Sincerely,

Kim Delfino
California Program Director
Defenders of Wildlife

Mike Skuja
California Representative
Defenders of Wildlife

Reference Page Attached

References:

Anderson, R., M. Morrison, K. Sinclair and D. Strickland. *Studying Wind Energy/ Bird Interactions: A Guidance Document*. National Wind Coordinating Committee, 1999 (to be revised in 2008).

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Boarman, W.I. 2002. Threats to desert tortoise populations: a critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U.S. Geological Survey, Western Ecological Research Center. San Diego, CA.

California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development (September 2007). www.energy.ca.gov/2007publications/CEC-700-2007-008/CEC-700-2007-008-CTF.PDF

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Erickson, W. P., G. D. Johnson, M. D. Strickland, D. P. Young, Jr., K. J. Sernka and R.E. Good. 2001. Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collision Mortality in the United States. National Wind Coordinating Committee Resource Document. Available at: http://www.nationalwind.org/pubs/avian_collisions.pdf

Kunz, T.H., E. B. Arnett, B. M. Cooper, W. P. Erickson, R. M. Larkin, T. Mabee. M.L. Morrison, M.D. Strickland and J. M. Szewczak. 2007. Assessing the Impacts of Wind Energy Development on Nocturnally Active Birds and Bats: A Guidance Document. *Journal of Wildlife Management* 71(8):2449-2486.

Mohave Ground Squirrel Technical Advisory Group. 2005. Mohave Ground Squirrel Conservation Strategy.

National Academy of Sciences. Environmental Impacts of Wind Energy Projects. Appendix C: Methods and Metrics for Wildlife Studies. <http://www.nap.edu/catalog.11935.html>

U.S. Fish and Wildlife Service. Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines. 2003.

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